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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,151	12/12/2000	Gert W. Bruning	US 000309	4686

24737 7590 03/30/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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BRIARCLIFF MANOR, NY 10510

EXAMINER

NGUYEN, HAU H

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,151

Applicant(s)

BRUNING ET AL.

Examiner

Hau H Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed January 29, 2004 have been fully considered but they are not persuasive. In response to Applicant's arguments that reference Bohn et al. does not teach the secondary circuits, the examiner disagrees. As shown in Fig. 8, Bohn et al. teach a primary circuit for generating VLED, a first secondary circuit comprising:

- a first sub-array of LEDs of first color (RED color) (first column starting with D18 to D48, and fourth column starting with D21 to D51),

- a first sub-array switch (elements Q13, Q16, and Q19-Q24);

- a second secondary circuit comprising:

- a second sub-array of LEDs of second color (GREEN color) (second column starting with D19 to D49, and fifth column starting with D22 to D52)

- a second sub-array switch (elements Q14, Q17, and Q19-Q24);

as further shown in Fig. 8, each of these secondary circuits is coupled to the primary circuit.

With reference to Figs. 4 and 5, Bohn et al. teach transistors Q5, Q6 and Q7 are sequentially turned on and off by the red, green, and blue enable signals (thus, it is implied controllers to generated red enable, green enable, and blue enable signals), respectively, to enable the red, green, and blue LEDs, respectively (col. 6, lines 15-19). As also shown in Fig. 5, each of the red LED, green LED, and blue LED is ON at different time in a frame duration T1, and thus, is in the ON state in a mutually exclusive manner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 25-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Bohn et al. (U.S. Patent No. 6,618,031).

Referring to claims 25 and 44, as shown in Fig. 8, Bohn et al. teach a primary circuit for generating VLED, a first secondary circuit comprising: a first sub-array of LEDs of first color (RED color) (first column starting with D18 to D48, and fourth column starting with D21 to D51), a first sub-array switch (elements Q13, Q16, and Q19-Q24); a second secondary circuit comprising: a second sub-array of LEDs of second color (GREEN color) (second column starting with D19 to D49, and fifth column starting with D22 to D52), a second sub-array switch (elements Q14, Q17, and Q19-Q24). As further shown in Fig. 8, each of these secondary circuits is coupled to the primary circuit. With reference to Figs. 4 and 5, Bohn et al. teach transistors Q5, Q6 and Q7 are sequentially turned on and off by the red, green, and blue enable signals (thus, it is implied controllers to generated red enable, green enable, and blue enable signals), respectively, to enable the red, green, and blue LEDs, respectively (col. 6, lines 15-19). As also shown in Fig. 5, each of the red LED, green LED, and blue LED is ON at different time in a frame duration T1, and thus, is in the ON state in a mutually exclusive manner.

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In regard to claims 26-29, Bohn et al. teach another embodiment, in which a measurement of the peak inductor current I_{peak} is used as feedback to control the on-time of the PWM drive signal, and thus, the amount of energy stored in the inductor for a given pulse. In particular, a feedback measurement of the voltage at node 31 is taken, which is representative of the peak inductor current I_{peak} (col. 9, lines 25-45).

Referring to claims 30-33, with reference to Fig. 3, Bohn et al. teach each of the red, green, and blue LEDs is enabled once per frame during a separate time interval. The switching converter 1 activates each LED, when enabled, in response to the PWM (pulse width modulation) drive signal being activated. The PWM drive signal is a time-variant signal, when activated. The "on-time" (pulse width) and frequency of the PWM drive signal can be varied within each frame to control the light output of each of the red, green, and blue LEDs.

In regard to claims 34-42, as shown in Fig. 4, Bohn et al. teach resistor R9 is coupled between the VLED node and the connected anodes of the red, green, and blue LEDs. Resistor R9 provides peak current limiting to the LEDs D11, D12 and D13 (col. 5, lines 55-60). As cited above, Bohn et al. teach the sub-array switch receiving input control signals (enable signals) from the sub-array controllers in order to turn ON the LEDs. As also cited above, Bohn et al. teach the feedback voltage. Since Applicant does not specify the "first, second, third, fourth points" (not even in the specification), these points can be interpreted as any point in the secondary circuits which provide different paths of current from resistor R9 to the sub-arrays of LEDs as mentioned above with reference to Fig. 8.

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In regard to claims 42 and 43, as shown in Fig. 7, Bohn et al. teach a transformer L10, which implies a primary winding and a secondary winding. The primary circuit is connected to the primary winding, and the secondary circuit is connected to the secondary winding.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, D. C. 20231

or faxed to:

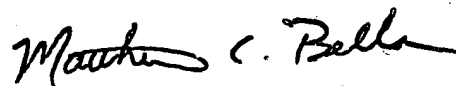
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose
telephone number is (703) 306-0377.

H. Nguyen

03/25/2004



MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600